

Message Text

UNCLASSIFIED

PAGE 01 STATE 136710
ORIGIN ACDA-12

INFO OCT-01 EUR-12 ISO-00 DOE-15 SOE-02 A-01 OES-07
CIAE-00 INR-10 IO-14 L-03 NSAE-00 EB-08 NRC-07
DODE-00 SS-15 SP-02 CEQ-01 INRE-00 NSCE-00 SSO-00
/110 R

DRAFTED BY ACDA/NP/NE:OJSHEAKS:LAK
APPROVED BY ACDA/NP:RROCHLIN
DOE:EHANRAHAN
DOE:JPATTERSON
STATE/A:PFARLEY
STATE/OES:JBORIGHT

-----016415 302246Z /70

O 302203Z MAY 78
FM SECSTATE WASHDC
TO AMEMBASSY VIENNA IMMEDIATE

UNCLAS STATE 136710

USIAEA

E.O. 11652: N/A

TAGS: INFCE, TECH

SUBJECT: DATA ON FUEL CYCLE CHARACTERISTICS FOR INFCE
WG-1

PASS TO NININGER, SCHWENNESEN, REYNOLDS IN INFCE WG-1
DELEGATION

1. IN RESPONSE TO SUBGROUP 1A/2A QUESTIONNAIRE, THE WG-1
DELEGATION SHOULD TABLE WITH THE CHANGES NOTED BELOW THE
REVISED DATA ON FUEL CYCLE CHARACTERISTICS FOR THE INFCE
SUBMITTED HANRAHAN TO SCHWENNESEN MAY 3.

UNCLASSIFIED

UNCLASSIFIED

PAGE 02 STATE 136710

2. CHANGES ARE THE FOLLOWING:

(A) FOR LWR DELETE COLUMN OF DATA FOR IMPROVED VERSION
AND SUBSTITUTE FOR PRESENT TEXT THE FOLLOWING:

THE VALUES SHOWN ARE FOR CURRENT REACTOR AND FUEL DESIGNS
AND FUEL MANAGEMENT PRACTICES USING A ONCE-THROUGH FUEL

CYCLE. A CAPACITY FACTOR OF 75 PERCENT AND AN ENRICHMENT TAILS ASSAY OF 0.2 PERCENT ARE ASSUMED.

STUDIES, FUEL TESTING, AND HARDWARE DEVELOPMENT ARE NOW UNDER WAY IN THE U.S. TO IMPROVE THE URANIUM EFFICIENCY OF THE LWR ONCE-THROUGH CYCLE. THE U.S. WILL SUBMIT A PAPER WITH AN EXTENDED DISCUSSION OF INTERIM RESULTS IN JUNE 1978 TO INFCE WORKING GROUP 8. FOR PRELIMINARY LWR ONCE-THROUGH FUEL CYCLE CALCULATIONS THE FOLLOWING CHANGES IN FUTURE URANIUM REQUIREMENTS SHOULD BE ASSUMED:

(1) STARTING IN 1990 A ONE-SIXTH REDUCTION BELOW CURRENT VALUES FOR ANNUAL NATURAL URANIUM REQUIREMENTS FOR REPLACEMENT LOADINGS, NO CHANGE IN INITIAL LOADING, AND RELOAD ENRICHMENT REQUIREMENTS REDUCED 4 PERCENT. THIS REDUCTION WILL APPLY TO ALL NEW REACTORS AND TO ONE-TENTH OF EXISTING REACTORS EACH YEAR STARTING IN 1990 WITH FULL RETROFIT BY 1999.

(2) STARTING IN 2000 A ONE-FIFTH REDUCTION BELOW CURRENT VALUES FOR ANNUAL NATURAL URANIUM REQUIREMENTS FOR REPLACEMENT LOADINGS, NO CHANGE IN INITIAL LOADING, AND RELOAD ENRICHMENT REQUIREMENTS REDUCED 4 PERCENT. THIS REDUCTION WILL APPLY TO NEW REACTORS ONLY.

(3) IN ALL TIME PERIODS, NEW REACTORS THAT REPLACE
UNCLASSIFIED

UNCLASSIFIED

PAGE 03 STATE 136710

DECOMMISSIONED REACTORS OF THE SAME TYPE WILL NOT REQUIRE FULL INITIAL LOADING BUT ONLY A REPLACEMENT LOADING FOR STARTUP. THE ASSUMPTION IS THAT PARTIALLY BURNED FUEL FROM THE DECOMMISSIONED CORE WILL BE USED TOGETHER WITH A NEW REPLACEMENT LOADING TO MAKE THE INITIAL CORE OF THE REPLACEMENT REACTOR.

THESE IMPROVEMENTS IN URANIUM EFFICIENCY WILL RESULT FROM IMPROVEMENTS IN SUCH FACTORS AS BURNUP LEVEL AND UNIFORMITY, POISON CONTROL, RELOAD FREQUENCY AND DOWN-TIME, AND GEOMETRY. THE PRELIMINARY VALUES FOR THESE IMPROVEMENTS WILL BE MODIFIED AS STUDIES CONTINUE.

(B) FOOTNOTE THE LMFBR CHARACTERISTICS AS FOLLOWS:
"THESE CHARACTERISTICS APPLY ONLY TO POST-2000 BREEDER REACTORS. THE U.S. EXPECTS TO HAVE NO COMMERCIAL LMFBR PRIOR TO 2000."

3. US REP (NININGER) AT HIS DISCRETION MAY USE THESE LWR CHARACTERISTICS AND, IF USABLE, THE LATEST SUBGROUP 1A/2A NUCLEAR CAPACITY FORECAST INFORMATION TO REVISE THE PAPER "INFCE URANIUM DEMAND CASES" BEFORE IT IS

TABLED WITH SUBGROUP 1B. VANCE

UNCLASSIFIED

NNN

Message Attributes

Automatic Decaptioning: X
Capture Date: 01 jan 1994
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: DATA, FUELS, AMENDMENTS
Control Number: n/a
Copy: SINGLE
Draft Date: 30 may 1978
Decaption Date: 01 jan 1960
Decaption Note:
Disposition Action: n/a
Disposition Approved on Date:
Disposition Case Number: n/a
Disposition Comment:
Disposition Date: 01 jan 1960
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1978STATE136710
Document Source: CORE
Document Unique ID: 00
Drafter: OJSHEAKS:LAK
Enclosure: n/a
Executive Order: N/A
Errors: N/A
Expiration:
Film Number: D780226-0525
Format: TEL
From: STATE
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1978/newtext/t1978056/aaaaafal.tel
Line Count: 117
Litigation Code IDs:
Litigation Codes:
Litigation History:
Locator: TEXT ON-LINE, ON MICROFILM
Message ID: e0961c9f-c288-dd11-92da-001cc4696bcc
Office: ORIGIN ACDA
Original Classification: UNCLASSIFIED
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 3
Previous Channel Indicators: n/a
Previous Classification: n/a
Previous Handling Restrictions: n/a
Reference: n/a
Retention: 0
Review Action: RELEASED, APPROVED
Review Content Flags:
Review Date: 29 mar 2005
Review Event:
Review Exemptions: n/a
Review Media Identifier:
Review Release Date: N/A
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
SAS ID: 2694527
Secure: OPEN
Status: NATIVE
Subject: DATA ON FUEL CYCLE CHARACTERISTICS FOR INFCE WG-1 PASS TO NININGER, SCHWENNESEN, REYNOLDS IN INFCE W
TAGS: TECH, US, INFCE
To: VIENNA USIAEA
Type: TE
vdkgvwkey: odb://SAS/SAS.dbo.SAS_Docs/e0961c9f-c288-dd11-92da-001cc4696bcc
Review Markings:
Sheryl P. Walter
Declassified/Released
US Department of State
EO Systematic Review
20 Mar 2014
Markings: Sheryl P. Walter Declassified/Released US Department of State EO Systematic Review 20 Mar 2014